#### PLURIS HAMPSTEAD, LLC DOCKET NO. W-1305, SUB 12

#### TESTIMONY OF GINA Y. CASSELBERRY ON BEHALF OF THE PUBLIC STAFF NORTH CAROLINA UTILITIES COMMISSION

### July 14, 2020

1	Q.	PLEASE STATE FOR THE RECORD YOUR NAME, BUSINESS
2		ADDRESS, AND PRESENT POSITION.
3	A.	My name is Gina Y. Casselberry. My business address is 430 North
4		Salisbury Street, Dobbs Building, Raleigh, North Carolina. I am a
5		Utilities Engineer with the Public Staff's Water, Sewer and Telephone
6		Division.
7	Q.	BRIEFLY STATE YOUR QUALIFICATIONS AND EXPERIENCE
8		RELATING TO YOUR PRESENT POSITION WITH THE PUBLIC
9		STAFF.
10	A.	I graduated from Michigan Technology University, receiving a Bachelor
11		of Science Degree in Civil Engineering. I have been with the Public
12		Staff's Water Division since February 1992. I have presented
13		recommendations in rate increase proceedings, new franchise and
14		transfer applications and other matters before the Commission for the
15		past twenty-eight years.
16	Q.	WHAT ARE YOUR DUTIES IN YOUR PRESENT POSITION?
17	A.	My duties with the Public Staff are to monitor the operations of
18		regulated water and sewer utilities with regard to service and rates.

Included in these duties are field investigations to review, evaluate, and recommend changes, when needed, in the design, construction, and operations of regulated water and sewer utilities; presentation of expert testimony in formal hearings; and presentation of information, data, and recommendations to the Commission.

### Q. PLEASE DESCRIBE THE SCOPE OF YOUR INVESTIGATION IN THIS CASE.

A. On January 22, 2020, Pluris Hampstead, LLC (Pluris Hampstead or Company) filed an application with the Commission seeking authority to increase its rates for providing sewer utility service in all its service areas in Pender County, North Carolina. My investigation included a review of customer complaints, a review of company records, and an analysis of revenues at existing and proposed rates. I have also assisted Public Staff Accountant Jenny Li in reviewing expenses and plant in service, and designed rates to generate the service revenue requirement.

## 17 Q. BRIEFLY DESCRIBE PLURIS HAMPSTEAD'S SERVICE AREAS 18 AND SEWER SYSTEM.

A. Pluris Hampstead serves approximately 524 residential and 58 commercial customers along Highway 17 in Hampstead, North Carolina. The force main begins at the New Hanover/Pender County line and runs north for approximately 11.5 miles. The 250,000 gallon per day (gpd) wastewater treatment plant (WWTP) and high-rate

infiltration system (HRIS) is located at the southern end. The WWTP consists of a 5,735 gallon odor control wet well, a 125,000 gallon preanoxic/flow equalization basin, two 38,130 gallon pre-aeration tanks, a 50,604 post-anoxic tank, a 38,130 gallon aerobic digester and all the associated pumps, blowers, piping, valves, controls, and appurtenances. The HRIS consists of two 0.124 acre high-rate infiltration basins, separated by 100 feet of engineered fill, a gravity flow drainage system with approximately 992 linear feet (LF) of 12inch high-density polyethylene pipe (HDPE) and approximately 425 LF of 18-inch HDPE pipe, a 4,138,564 gallon groundwater storage pond, and associated piping, values, controls and appurtenances. In addition, there are nine duplex lift stations and a new regional lift station, which was installed at the midway point to help eliminate emergency backup issues in the force main caused by elevated pressure.

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# 16 Q. HAVE YOU REVIEWED THE OPERATIONAL STATUS OF THE 17 SEWER SYSTEM WITH THE NORTH CAROLINA DEPARTMENT 18 OF ENVIRONMENTAL QUALITY (DEQ), DIVISION OF WATER 19 RESOURCES (DWR)?

Yes. I spoke with the non-discharge branch chief in Raleigh, North Carolina. The branch chief informed the Public Staff that the groundwater storage pond was critical to the operation and that the maintenance agreement between Pluris Hampstead and Blake

Farms Pond, LLC had not yet been recorded with Pender County as required. On May 21, 2020, in Docket No. W-1305, Sub 0, Pluris

Hampstead filed the Recorded Memorandum and Agreement of

Easement as required. No other major issues were identified.

Present

Proposed

- 5 Q. WHAT ARE PLURIS HAMPSTEAD'S PRESENT AND PROPOSED
- 6 **RATES?**

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- 7 A. Pluris Hampstead's present and proposed rates are shown below:
- 8 <u>Monthly Residential Flat Rate</u>:

10		Rate	Rate
11	All residential customers	\$ 63.95	\$ 84.42
12	Monthly Commercial Metered Custome	ers:	
13 14 15	Base Charge. zero usage: (minimum cl	harge) Present <u>Rate</u>	Proposed <u>Rate</u>
16 17 18 19 20 21	< 1 inch 1 inch 1.5 inch 2 inch 4 inch 6 inch	\$ 25.24 \$ 25.24 \$ 25.24 \$ 25.24 \$ 25.24 \$ 25.24	\$ 10.00 \$ 25.00 \$ 50.00 \$ 80.00 \$ 250.00 \$ 500.00
22	Usage charge, per 1,000 gallons	\$ 9.68	\$ 16.50

- 23 Q HAS THE PUBLIC STAFF RECEIVED ANY CUSTOMER
- 24 COMPLAINTS AS A RESULT OF THE CUSTOMER NOTICE IN
- 25 **THIS PROCEEDING?**
- A. On March 18, 2020, the Commission issued an Order Scheduling
   Hearings, Establishing Discovery Guidelines, and Requiring

Customer Notice. Pluris Hampstead failed to make the notice as required. On July 1, 2020, the Commission issued an Order Rescheduling Hearings and Requiring Customer Notice. At this time, customers have not yet been noticed, and the Public Staff has not yet received feedback from customers. Customer hearings and complaints will be addressed in supplemental testimony at a later date.

### 8 Q. PLEASE EXPLAIN WHY THE PUBLIC STAFF UPDATED THE 9 TEST YEAR.

10 A. The Company filed its application using a twelve-month test year
11 ending September 30, 2019. The Public Staff updated the test year
12 to reflect customer growth and plant in service for the twelve-months
13 ending March 31, 2020.

## Q. WHAT IS THE PUBLIC STAFF'S POSITION CONCERNING THE COMPANY'S PENDING NEW FRANCHISES?

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Pluris Hampstead has nine new franchises pending before the Commission as shown in Casselberry Exhibit No. 1. It is the Public Staff's position that these customers are being billed for service and that Pluris Hampstead has an obligation to continue serving them. It is also the Public Staff's position that if these customers were removed from the billing analysis in this proceeding, the revenue generated would be significantly understated.

#### Q. BRIEFLY EXPLAIN YOUR BILLING ANALYSIS.

Α.

Α. I determined the end-of-period (EOP) customers based on the billing data provided by the Company for the updated test year ending March 31, 2020. The billing data includes active customers in pending franchise applications. Commercial customers reflect the number of active customers, including pending applications. I also calculated the total consumption for commercial customers, for each meter size. The results of my billing analysis are shown in Casselberry Exhibit Nos. 2 and 3.

### 10 Q. PLEASE EXPLAIN WHY YOUR REVENUE AT PROPOSED 11 RATES IS DIFFERENT THAN THE COMPANYS?

I used EOP customers to calculate revenue at present and proposed rates, which represents the number of active customers billed in March 2020, the last month of the updated test year. EOP customers includes customer growth for the test period. The Company started with the number of customers billed in September 2019, than added 150 residential flat rate customers, the number of tap fees collected, to reflect anticipated customer growth. The Public Staff disagrees with this methodology to account for customer growth. It is not uncommon for developers to pay tap fees in advance to reserve capacity for construction at a later date. EOP customers reflect the actual customers being billed going forward, which includes customer growth throughout the test year period.

In addition, there were some minor inconsistencies between the Public Staff's EOP customers and the Company's numbers in regard to commercial customers. The Company used total customers billed to calculate the revenue and the Public Staff used EOP customers multiplied by 12 months. The Public Staff also determined that the Company has one 4-inch commercial customer (Arbor Landing, account # 30984) versus the Company's two, and two 6-inch commercial customers (Pender County Schools, account # 27728 and 27271) versus the Company's four.

### 10 Q. DID YOU CALCULATE CUSTOMER GROWTH FACTORS FOR 11 SEWER SERVICE?

Α.

Yes. Since expenses related to consumption affect both residential and commercial customers, I computed a composite customer growth factor (CGF) of 1.2824 for adjusting expenses. I also calculated CGF's for metered commercial customers, based on the meter sizes, to adjust for increased consumption. Residential customers are charged a flat rate and the number of active customers at the end of the test year period would account for customer growth. My calculations are shown in Casselberry Exhibit No 2.

### Q. HOW DID YOU APPLY CUSTOMER GROWTH FACTORS FOR CONSUMPTION AND EXPENSES?

1	A.	I adjusted chemicals expense, purchased power for the lift stations,
2		and sludge hauling using the composite CGF. I adjusted sewer
3		consumption at present and proposed rates for metered commercial
4		customers using the CGF calculated for each meter size.
5	Q.	WHAT ARE THE ANNUAL SERVICE REVENUES UNDER
6		PRESENT AND PROPOSED RATES?
7	A.	My calculations for service revenues at present and proposed rates
8		are shown in Casselberry Exhibit Nos. 4 and 5.
9	Q.	HAVE YOU RECOMMENDED ANY ADJUSTMENTS TO
10		EXPENSES RELATED TO SEWER OPERATIONS?
11	A.	Yes, I have provided Public Staff witness Li with recommendations for
12		purchased power, chemical expenses, testing, and sludge removal.
13		Purchased Power
14		The Company expensed \$56,583 for purchased power associated with
15		operating the WWTP and the lift stations. Based on the invoices
16		provided by the Company, I determined purchased power in the
17		amount of \$42,530. The Company included \$14,053 which was
18		outside the test year (January through September 2018).
19		The Company made a pro forma adjustment of \$15,483 to account for
20		increased usage at the WWTP due to operational changes beginning

in June 2019, such as; 1) turning on a second blower to increase

dissolved oxygen, which will lower the amount of ammonia below the permitted limits, 2) increasing the run-times for the pumps, and 3) increasing the run-times of the Vulcan fine screens (2-motors) to filter out additional debris in the influent due to the increases in flow. However, the Company's pro forma adjustment also included increasing purchased power for all of the lift stations in addition to adjusting purchased power for the WWTP.

It is the Public Staff's position that the increase in purchased power should only apply to the WWTP and the three new lift stations added in 2019. I calculated a pro forma adjustment of \$13,941, which includes adjusting purchase power for the WWTP; and pro-rating purchased power for a 12-month period for the Sparrow Bend and Highway 17 lift stations, both placed in service in March 2019; and the Craftsman Way lift station, placed in service in May 2019. I also adjusted purchase power for the lift stations for customer growth, which was an increase of \$2,452. I recommend \$58,923 for purchased power associated with sewer operations. My calculations are shown in Casselberry Exhibit No. 6.

#### Chemical Expenses

Pluris Hampstead expensed \$39,214 for chemicals used in sewer operations. I have made an upward adjustment of \$311 to reflect the increased cost of chemicals in 2019 as shown below.

1	Chemical	Increase in Price	Gallons	Amount
2	47020 Micro 2000	\$0.06	2,595	\$155.70
3	Hyperchloride	\$0.07	200	\$ 14.00
4	Aluminum Sulfate	\$0.13	930	\$120.90
5	Taxes			\$ 20.34
6	Total Adjustment			\$ 310.94

I also adjusted chemical expenses for customer growth by multiplying \$39,525 by the composite CGF 1.2824, resulting in chemical expenses of \$50,687. I recommend \$50,687 for chemicals used for sewer operations.

#### Testing Expenses

The Company expensed \$ 14,642 for testing. I recommend \$18,310, which reflects current testing costs for the various tests and frequencies under Pluris Hampstead's DEQ Permit, dated January 23, 2020. My calculations are shown in Casselberry Exhibit No. 7.

#### Sludge Removal

Pluris Hampstead expensed \$70,385 for removing sludge from the WWTP and lift stations. Included in the \$70,385, was \$25,610 in response to emergency backups at various lift stations due to elevated pressure in the force main. In 2019, the Company installed a regional lift station at the midway point, which has alleviated the elevated pressure issue in the force main and eliminating emergency backups.

It is the Public Staff's position that sludge removal for emergency backups cause by elevated pressure in the force main is no longer a recurring issue and therefore, the \$25,610 should be amortized over a five year period (\$5,122). This would still allow a reasonable amount for emergency situations, but avoid overstating sludge removal going forward. Therefore, I reduced sludge removal by \$20,488, resulting in \$49,897 for sludge removal (\$70,385 - \$25,610 + \$5,122). I also adjusted sludge removal for customer growth by multiplying \$49,897 by the composite CGF 1.2824. I recommend \$63,988 as a representative level for sludge removal.

#### 11 Q. WHAT ADJUSTMENTS HAVE YOU MADE TO SEWER UTILITY

#### PLANT IN SERVICE?

Α.

Pluris Hampstead's general rate case filing includes an excess capacity adjustment of 50% applied to sewer force mains. The Public Staff recommends an additional excess capacity adjustment of 38.8% for the wastewater treatment plant and infiltration basins.

The excess capacity adjustment removes from rate base a percentage of the plant and accumulated depreciation related to excess capacity in overbuilt plant. The Public Staff does not recommend excess capacity adjustments for all overbuilt plants. Commonly, the developer of a system bears a majority of the initial cost and risk associated with plant infrastructure to serve future projected growth. The initial construction is fully contributed by the

developer to the utility. However, for the Pluris Hampstead sewer system, developers did not contribute the WWTP and infiltration basins, and Pluris Hampstead took on avoidable amounts of cost and risk from developers. Without an excess capacity adjustment, present customers would pay for an unfair and disproportionally high amount for plant to serve potential future customers.

Currently, Pluris Hampstead has installed infrastructure to treat 500,000 gpd, except for the membrane set for the final 250,000 gpd capacity. These are not yet installed because they are not needed to treat current sewage flow and would be subject to damage and deterioration while not in service. The maximum daily sewage flow through the WWTP during the test year was 150,692 gallons.

There is a history of calculating excess capacity adjustments for sewer treatment plants that can be found in numerous general rate case proceedings for Carolina Water Service, Inc. of North Carolina (CWSNC) and Aqua North Carolina, Inc. (Aqua). The Commission's previous orders regarding excess capacity have suggested an openness to consider other calculation methodologies. Specifically, in the Aqua Docket No. W-218, Sub 497 Order, dated September 18, 2019, the Commission "requests that more evidence be presented by the parties regarding other formulas or methods for making excess capacity adjustments such that the Commission could determine by the weight of the evidence presented whether future

2	in the approved methodology."1
3	Excess Capacity is calculated as follows:
4	Excess Capacity = (1 - Contributary Flow / Design Flow) x 100

growth projections or any other additional factors should be included

Contributary Flow is the amount of flow for the customers at the end of the update period. Design Flow is the design capacity of the utility infrastructure installed.

Based on prior Commission orders (Docket No. W-354, Sub 128 and W-218, Sub 319), the Contributary Flow has been calculated as:

Contributary Flow = SFE x 400 gallons per day (gpd)

where SFE is customer "Single Family Equivalent." The Public Staff and Aqua both disagree with using 400 gpd, because it is a water system design standard. The sewer system design standard is 360 gpd, and I use 360 gpd in my calculation.

SFEs have been calculated the same way as in prior general rate cases using water meter sizes and American Water Works Association (AWWA) meter size factors, with one exception, Sparrow Bend Apartments (SBA). SBA has a total of 228 apartments. There are ten 2-inch meters that when multiplied by the

<sup>&</sup>lt;sup>1</sup> Order Approving Partial Settlement Agreement and Stipulation, Granting Partial Rate Increase, and Requiring Customer Notice, Docket No. W-218, Sub 497, p 48.

Department of Environmental Quality, Division of Water Resources (DEQ) plan approval assigns a design flow of 64,080 gpd to SBA, which when divided by 360 gpd equals 178 SFE. I have substituted 178 SFE for the 80 SFE determined using meter sizes. The total

AWWA factor of 8, results in 80 SFE's. The North Carolina

6 calculated SFE for the excess capacity calculation is 849.5. My

7 calculations are shown in Casselberry Exhibit No. 8.

Therefore, Contributory Flow = 849.5 SFE x 360 gpd = 305,820 gpd

The WWTP installed, with the exception of the membrane set for 250,000 gpd of treatment capacity, is to treat 500,000 gpd of sewage flow. The infiltration basins will take over 1,000,000 gpd of effluent from the WWTP. I have used 500,000 gpd as the Design Flow for the

WWTP and infiltration basins.

The excess capacity is calculated as:

Excess Capacity = (1 - 305,820 gpd / 500,000 gpd) x 100 = 38.8%

I recommend this excess capacity adjustment be applied to the Company's WWTP and infiltration basins.

Pluris Hampstead included an additional 150 residential customers in its calculations of revenues and rate design in anticipation of significant near term growth on the system. This would be to offset some of the excess capacity in the system. This is not the traditional

rate making mechanism to account for excess capacity. As I have previously testified, I did not include anticipated customers in calculation of revenues and rate design. Using an excess capacity adjustment to match plant in service to SFE customers at the end of the update period is the appropriate mechanism.

Α.

Public Staff witness Li has implemented the updated excess capacity percentages and plant, net of accumulated depreciation and contributions in aid of construction.

### 9 Q. HAVE YOU MADE ANY CHANGES TO THE COMPANY'S 10 PROPOSED RATES?

Yes. I propose a metered commercial rate for SBA. Currently, Pluris Hampstead bills each unit the flat residential rate regardless of the number of bedrooms. In Docket No. W-1305, Sub 0, the residential flat rate was established based on a three-bedroom, single family home. It is the Public Staff's position that SBA should be classified as a commercial customer and charged the metered commercial rate, based on the number of meters and sizes connected to the supplier. The Public Staff is of the opinion that the owner of SBA has the option of either including sewer as part of the monthly rent or applying for a certificate of authority for sewer service, which it currently has for water service. SBA has 10 buildings and each building has a 2-inch meter. I removed 203 flat rate residential customers and added ten, 2-inch commercial customers.

Consumption for SBA was provided to the Public Staff in the Company's response to EDR4, in Docket No. W-1305, Sub 13.

#### 3 Q. WHAT ARE THE PUBLIC STAFF'S RECOMMENDED RATES?

A. The Public Staff recommends service revenue of \$796,826 and recommends a partial rate increase. The Public Staff is also recommending an alternate rate design. As I have previously testified, the Public Staff reclassified SBA from the residential flat rate to the metered commercial rate.

The Public Staff's service revenue requirement is an increase of 22.84% over revenue generated at present rates. I applied the percent increase to the current monthly flat rate residential charge to arrive at a new monthly flat rate of \$78.55, which generates service revenue of \$410,974 from residential customers. I then designed monthly metered commercial rates in the new metered commercial rate structure to generate the remainder of the total annual service revenue requirement. The resulting increased revenue generated by the commercial customers, including the reclassified SBA customer, is also approximately 22.84%. My calculations are shown in Casselberry Exhibit No. 9. The Company's present and proposed rates and the Public Staff's recommend rates are shown in Casselberry Exhibit No. 10.

#### 1 Q. DO YOU HAVE ANY OTHER RECOMMENDATIONS?

- 2 A. Yes. The Public Staff recommends Pluris Hampstead file a monthly
- 3 progress report with the Commission for the seven pending
- 4 application identified in Casselberry Exhibit No. 1.

#### 5 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

6 A. Yes.

Casselberry Exhibit No. 1 Page 1 of 3

#### Pending Applications Before The Commission

					Contract		
			Pending		Required		
		Active	Sub		for Lift Station	Date	
Residential Customers	Address	Customers	No.	Developer	and/or Mains	Filed	
Wylie Branch Subdivision		No	Sub 8	Island Creek Development		8-May-18	
Cypress Grove Townhomes		No	Sub 9			8-Jun-18	
Commercial Customers							
Rising Tide Fitness LLC	16621 Hwy 17	Yes	Sub 10	Live Oak Development	Mains	6-Aug-18	
Atlantic Wireless Communications Inc	17230 US Hwy 17 N 100	Yes	Sub 14	Hampstead Town Center LLC	LS/Mains	4-Feb-20	
Hwy 55 of Hampstead	17230 US Hwy 17 N 102	Yes	Sub 14				
Corning Federal Credit Union	17230 US Hwy 17 N 106	Yes	Sub 14				
Big Al's Pub & Grubberia	17230 US Hwy 17 N 108	Yes	Sub 14				
McFreedom LLC dba Great Clips	17230 US Hwy 17 N 112	Yes	Sub 14				
Passion Nails	17230 US Hwy 17 N 114	Yes	Sub 14				
Sherwin Williams	17230 US Hwy 17 N 116	Yes	Sub 14				
Darden Insurance Agency	17230 US Hwy 17 N 120	Yes	Sub 14				
Chan Holdings Inc dba Sushi Gem	17230 US Hwy 17 N 124	Yes	Sub 14				
Jersey Mikes / Dankque LLC	17230 US Hwy 17 N 200	Yes	Sub 14				
Little Caesar's	17230 US Hwy 17 N 202	Yes	Sub 14				
Ervin Brothers Insurance Agency Inc	17230 US Hwy 17 N 204	Yes	Sub 14				
Dollar Tree #5360	17230 US Hwy 17 N 210	Yes	Sub 14				
Christopher White	17230 US Hwy 17 N 218	Yes	Sub 14				
Johnson Drug Hampstead	17230 US Hwy 17 N 222	Yes	Sub 14				

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Exhibit No. 1
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#### Pending Applications Before The Commission

Contract Pending Required Active Sub for Lift Station Date Address and/or Mains **Commercial Customers** Customers No. Developer Filed Lowes Foods LLC 17220 US Hwy 17 N Fuel Sub 14 Hampstead Town Center LLC Yes Lowes Foods LLC Sub 14 17230 US Hwy 17 N 242 Yes Taco Bell #30575 17200 US Hwy 17 N Yes Sub 14 Carolina Rest. Group Inc (Wendy's) 17160 US Hwy 17 N Yes Sub 14 4-Feb-20 Sub 14 Oak Ridge Property 4-Feb-20 Wilmington Health PLLC 40 Ravenswood Road Yes LS/Mains Sub 14 Allan j Betag 4-Feb-20 Allan Betag 17117 US Hwy 17 N Yes Hampstead Dental Sub 14 JLCP Properties 4-Feb-20 17097 Hwy 17 Yes EMS/Fire Station **Under Construction** No Sub 16 Pender County 3-Feb-20 Sub 18 Scotts Hill Retail Creative Minds Preschool /Humphrey Heating 11207 US Hwy 17 Yes LS/Mains 4-Feb-20 Scotts Hill Baptist Church /Chiropractor 11243 US Hwy 17 Yes Sub 18 Scotts Hill Retail Quality Oil Company LLC 15531 US Hwy 17 N Yes Sub 19 Quality Oil Company LLC 4-Feb-20 **Dunkin Donuts Hampstead Donuts** LS/Mains 15441 US Hwy 17 101 Yes Sub 19 Bailey Shoppes at Hampstead Chapel Hill Subway Group LLC 15441 US Hwy 17 201 Yes Sub 19 SDS Restaurant Group LLC dba Pizza Hut 15441 US Hwy 17 301 Yes **Sub 19** CMG Mortgage Inc dba CMG Financial 15441 US Hwy 17 401 Yes Sub 19 Coastal Carolina Care PLLC 15441 US Hwy 17 501 Yes Sub 19 Vanny Nails 15441 US Hwy 17 601 Yes Sub 19 Ali Almahboosh 15441 US Hwy 17 701 Sub 19 Yes Realo Discount Drug Stores of Hampstead 15441 US Hwy 17 801 Yes Sub 19

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#### Pending Applications Before The Commission

					Contract	
			Pending		Required	
		Active	Sub		for Lift Station	Date
Commercial Customers	Address	Customers	No.	Developer	and/or Mains	Filed
C & D Pizza Inc dba Dominos Pizza	15489 US Hwy 17 N Ste 1	Yes	Sub 19	Vintage Associates, LLC	LS/Mains	4-Feb-20
Brow to Toe Waxing & Skin Care	15489 US Hwy 17 N Ste 2	Yes	Sub 19			
O'Reilly Automotive Stores Inc	15489 US Hwy 17 N Ste 3	Yes	Sub 19			
Kaad LLC	15489 US Hwy 17 N Ste 4	Yes	Sub 19			
Highland Business Park	Under Construction	No	Sub 25	Dominion Land Corp	LS/Mains	5-Feb-20
Hampstead Enterprises LLC	14889 US Hwy 17 A,B,C	No	Sub 26	Codwell Bank	LS/Mains	18-Feb-20

Casselberry Exhibit No. 2

#### **Customer Growth Factors (CGF)**

			_	2019								_	_		_	2020				Composite	Indiv.
<u>Residential</u>	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total	CGF	CGF
Total cust	253	263	274	279	283	293	305	342	393	433	462	524	547	577	587	605	625	639	7,684		
Sparrow B	0	0	0	0	0	0	0	25	62	95	115	169	203	204	204	204	201	203	1,685		
Res only	253	263	274	279	283	293	305	317	331	338	347	355	344	373	383	401	424	436	5,999		
Commercial																					
5/8" Meter	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	34		1.0588
3/4" Meter	26	27	27	27	28	27	30	27	27	28	28	30	32	36	38	36	37	37	548		1.2153
1" Meter	9	10	11	10	11	11	10	11	11	11	13	13	13	13	9	9	9	9	193		0.8394
1 1/2" Meter	3	3	3	3	3	3	5	5	5	5	5	5	5	5	5	5	5	5	78		1.1538
2" Meter	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	42		1.2857
4" Meter	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18		1.0000
6" Meter	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	36		1.0000
TOTAL																		495	6,948	1.2824	

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#### Consumption

	Meter													
Account	Size	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Total
27304	1 1/2"	15,600	16,200	19,000	14,700	16,800	20,300	14400	15300	16400	17200	23100	4700	193,700
29384	1 1/2"	1,700	25,000	37,500	43,500	15,000	17,000	13000	17500	16000	15500	13500	18000	233,200
31814	1 1/2"	25,300	45,700	54,900	39,900	50,500	56,000	42500	51500	49000	42500	55000	52500	565,300
33838	1 1/2"	500	1,000	1,500	1,500	1,500	1,500	1000	1500	1500	1500	1500	2500	17,000
33839	1 1/2"	1,300	90,100	5,400	4,500	5,500	5,500	13500	16000	2000	2000	2000	3500	151,300
														1,160,500
27281	1"	3,000	1,350	2,700	2,950	1,550	1,450	1100	1750	950	950	750	850	19,350
27289	1"	23,900	27,950	32,050	27,150	29,450	31,900	19900	29150	23300	43150	24650	25600	338,150
27293	1"	53,100	58,000	52,100	39,050	43,250	46,250	28050	43100	42250	53600	43800	59500	562,050
27294	1"	10,200	12,400	16,700	14,300	16,250	14,800	10500	13800	11950	16850	15950	15050	168,750
30497	1"	6,700	20,650	56,450	20,600	103,400	(79,300)	4650	6300	5400	6900	5650	5900	163,300
31630	1"	15,460	11,150	11,760	14,190	15,700	13,420							81,680
31673	1"	390	270	2,872	(1,932)	700	390	380	460					3,530
33393	1"	46,800	47,000	48,450	40,200	41,500	39,700	27450	39750	40400	45800	43150	40550	500,750
33395	1"	39,190	40,470	41,830	40,680	41,600	35,360	39330	36010	37800	30770	47390	36330	466,760
33835	1"	-	3,400	6,900	20,100	4,400	5,700	4000	6400	50	0	50	0	51,000
34762	1"					20,250	31,350	24700	63100	44050	23400	20150	15950	242,950
34687	1'				-	3,990	1,220	900	9570	510	520	560	540	17,810
														2,616,080
	- "													
27281	2"	37,000	44,000	47,500	36,500	36,000	45,600	33000	64300	36100	38200	39500	38400	496,100
27701	2"	58,000	67,000	68,000	57,000	64,000	65,000	48000	57000	60000	60000	54000	61100	719,100
35048	2"						-	123300	229500	145500	170500	185000	369500	1,223,300
														2,438,500
27279	3/4"	250	400	450	450	600	500	500						3,150
27283	3/4"	6,700	7,950	9,750	9,350	10,150	10,300	7200	8350	6500	9100	7150	6650	99,150
27284	3/4"	32,200	35,800	37,000	29,350	31,450	29,750	21550	28150	26000	27250	26200	26850	351,550
27288	3/4"	3,900	3,600	3,950	3,850	4,550	4,200	3250	4150	3750	3750	3150	3000	45,100
27290	3/4"	300	300	400	200	250	300	150	300	450	550	300	350	3,850
27292	3/4"	800	1,000	1,000	800	900	900	450	600	500	500	600	700	8,750

Casselberry Exhibit No. 3 Page 2 of 3

#### Consumption

	Meter													
Account	Size	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Total
27295	3/4"	1,350	5,500	3,950	1,250	1,500	1,500	1000	1800	1450	1900	1500	1450	24,150
27296	3/4"	700	850	950	700	750	800	550	800	700	750	750	850	9,150
27623	3/4"	5,550	8,350	11,450	11,450	6,600	4,700	3050	3950	3700	4600	4600	4500	72,500
29205	3/4"	18,750	21,700	26,100	18,850	24,600	20,800	22400	20950	14450	39600	16800	19550	264,550
29381	3/4"	-												-
29382	3/4"	3,050	3,350	3,700	3,100	3,150	3,300	2600	3200	2500	2900	2500	2850	36,200
29386	3/4"	9,800	9,350	10,500	8,500	8,450	8,750	7100	8750	8050	8450	7050	8700	103,450
29390	3/4"	1,400	1,300	1,450	1,150	1,150	1,150	1500	2750	1550	3300	950	1150	18,800
29411	3/4"	500	1,050	3,550	350	250	250	200	250	150	250	200	5600	12,600
29638	3/4"	600	650	850	2,050	7,500	7,400	700	550	450	450	550	600	22,350
29666	3/4"	1,200	800	750	500	900	400	400	550	550	600	700	700	8,050
29733	3/4"	500	500	650	550	550	500	500	600	400	450	450	550	6,200
30712	3/4"	1,450	2,200	3,700	4,050	5,150	4,750	2600	2650	1850	4100	2500	1600	36,600
30713	3/4"	26,450	22,150	23,950	17,450	15,150	14,750	20150	14050	15250	24050	23450	28100	244,950
30984	3/4"	-	-											-
31215	3/4"	250	350	350	250	350	300	350	450	400	400	450	450	4,350
31279	3/4"	1,200	1,400	1,100	800	700	850	700	850	600	300	650	500	9,650
31628	3/4"	18,000	1,180	10,696	10,696	10,696	10,000	10696	15140	32790	22170	31530	32990	206,584
31630	3/4"							17120	13615	11545	14520	13710	26790	97,300
31630	3/4"								460	920	1210	330	520	3,440
31705	3/4"	200	100	150	50	-	-	50	50	0	50	0	50	700
31840	3/4"	1,830	1,190	1,890	1,080	1,230	1,080	1020	1010	930	700	1200	1280	14,440
32248	3/4"	8,400	8,950	10,150	8,150	8,350	17,050	12250	16500	8800	9850	8500	9650	126,600
32894	3/4"	15,750	16,850	17,600	12,450	15,550	14,900	12450	18850	21250	20900	18750	18400	203,700
33519	3/4"	6,000	3,450	4,700	3,900	3,200	3,900	3150	4350	4900	4800	5350	5900	53,600
33537	3/4"	31,910	16,900	34,750	26,480	29,380	46,450	29380	33110	32380	35450	37380	34800	388,370
33814	3/4"	-	-	-	50	600	250	1450	5000	23050	29100	27800	35750	123,050
34750	3/4"					6,701	1,740							8,441
34285	3/4"			-	-	-	150	150	400	400	400	620	480	2,600

Casselberry Exhibit No. 3 Page 3 of 3

#### Consumption

Account	Meter Size	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Total
35072	3/4"						1,620	6450	7350	7950	8000	6850	8450	46,670
35124	3/4"							-50	850	8000	18400	17900	15700	60,800
35264	3/4"							4566	8124	12880	18870	11410	12870	68,720
35419	3/4"									0	0	100	1900	2,000
														2,792,115
30969	5/8"	720	830	940	700	870	760	830	850	570	660	780	640	9,150
33396	5/8"	2,630	2,380	2,300	1,610	1,950	2,030	2060	2040	2060	1720	2840	2000	25,620
														34,770
30984	4"	62,900	95,800	111,250	87,550	102,200	97,350	86100	99050	110100	116950	134400	125300	1,228,950
30984	4"	-	-	-	-	-	-	0	0	0	0	0	0	-
27271	6"	107,540	95,800	145,280	212,650	165,800	73,560	223000	109310	133800	98870	135300	185090	1,686,000
27271	6"	45,300	31,800	59,600	22,400	2,500	28,000	0	0	0	0	0	0	189,600
27728	6"	187,140	65,630	200,170	6,670	37,620	52,410	174020	102810	125020	94910	152680	81220	1,280,300
27728	6"	60,000	(48,000)	8,000	-	-	-	0	0	0	0	0	0	20,000
														3,175,900

Casselberry Exhibit No. 4

#### Public Staff Revenue at Present Rates Adjusted for Customer Growth

#### Adjusted

•		Consumption	Usage						
Type of		for Customer		Usage	EOP	YTD	Base	Base	Total
User	Consumption	Growth	per/1,000 gal	Revenue	Customers	Customers	Charge	Revenue	Revenue
Flat rate									
Residential	-		-	-	436	5,232	63.95	334,586.40	334,586
Sparrow Bend Apt.	-		-	-	203	2,436	63.95	155,782.20	155,782
					639	7,668		490,369	490,369
Commercial									
5/8 inch metered	34,770	36,814	9.68	356	2	24	25.24	605.76	962
3/4 inch metered	2,792,115	3,393,257	9.68	32,847	37	444	25.24	11,206.56	44,053
1" metered	2,616,080	2,195,938	9.68	21,257	9	108	25.24	2,725.92	23,983
1.5" metered	1,160,500	1,338,985	9.68	12,961	5	60	25.24	1,514.40	14,476
2" metered	2,438,500	3,135,179	9.68	30,349	3	36	25.24	908.64	31,257
3" metered	-		9.68	-	-	-	25.24	=	-
4" metered	1,228,950	1,228,950	9.68	11,896	1	12	25.24	302.88	12,199
6" metered	3,175,900	3,175,900	9.68	30,743	2	24	25.24	605.76	31,348
Total Commercial	13,446,815	14,505,024		140,409	59	708		17,870	158,279
Total Pevenue									648 647

Total Revenue 648,647

#### Public Staff Revenue at Proposed Rates Adjusted for Customer Growth

		Adjusted Consumption	Usage						
Type of		for Customer	Charge	Usage	EOP	YTD	Base	Base	Total
User	Consumption	Growth	per/1,000 gal	Revenue	Customers	Customers	Charge	Revenue	Revenue
Flat rate									
Residential	-		-	-	436	5,232	84.42	441,685	441,685
Sparrow Bend Apt.	-		-	-	203	2,436	84.42	205,647	205,647
					639	7,668		647,333	647,333
Commercial									
5/8 inch metered	34,770	36,814	16.50	607	2	24	10.00	240	847
3/4 inch metered	2,792,115	3,393,257	16.50	55,989	37	444	10.00	4,440	60,429
1" metered	2,616,080	2,195,938	16.50	36,233	9	108	25.00	2,700	38,933
1.5" metered	1,160,500	1,338,985	16.50	22,093	5	60	50.00	3,000	25,093
2" metered	2,438,500	3,135,179	16.50	51,730	3	36	80.00	2,880	54,610
3" metered	-		16.50	-	-	-	150.00	-	-
4" metered	1,228,950	1,228,950	16.50	20,278	1	12	250.00	3,000	23,278
6" metered	3,175,900	3,175,900	16.50	52,402	2	24	500.00	12,000	64,402
Total Commercial	13,446,815	14,505,024		239,333	59	708		28,260	267,593
Total Dayanua									014.025

Total Revenue 914,925

#### Public Staff's Purchased Power Proforma Adjustment

		Lift station Lob Lolly	Lift Station 531 Lob	Lift Station 1 Craftsman's	Lift Station Waldorft		Lift Station Sparrow	Lift Station Highway 17	Lift Station 760 W
Date		Trail	Lolly Trail	Way Phase 2	Way	WWTP	Bend	LS 2	Craftsman Way
Sep 13-Oct 17 2018	Oct-18	41.10	91.61	58.28	236.47	3,537.13			
Oct 19 - Nov 19 2018	Nov-18	45.01	92.07	46.07	191.16	1,866.20			
Nov 15-Dec 15 2018	Dec-18	47.77	82.66	104.35	229.68	1,966.28			
Dec 15 - Jan 14 2019	Jan-19	47.41	73.10	16.71	211.56	3,214.98			
Jan 14-Feb 14 2019	Feb-19	47.25	72.95	48.03	149.53	2,461.62			
Feb 14 - Mar 14 2019	Mar-19	47.50	68.99	53.84	148.58	2,299.44	58.67	65.79	
Mar 14-apr 16 2019	Apr-19	45.76	69.61	47.67	161.05	2,127.72	53.31	112.61	
Apr 16-May 14 2019	May-19	45.89	68.50	45.44	155.66	3,231.20	68.13	112.61	161.43
May 14-Jun 14 2019	Jun-19	47.01	93.21	49.15	168.87	3,178.15	68.13	140.65	53.31
Total Oct through Jun		414.70	712.70	469.54	1,652.56	23,882.72			
Jun 14 - Jul 14 2019	Jul-19	45.40	108.53	47.05	209.45	3,629.93	97.79	267.28	53.31
Jul 12 Aug 13	Aug-19	47.74	61.82	48.03	268.69	4,072.40	97.79	327.77	53.31
Aug 16 Sep 17 2019	Sep-19	52.16	84.21	56.40	137.30	4,244.45	97.65	203.76	191.10
Total Jul through Sept		145.30	254.56	151.48	615.44	11,946.78			
Total		560.00	967.26	621.02	2,268.00	35,829.50	541.47	1,230.47	512.46
							Ave	erage for Lift St	ations
Purchased Power		42,530.18		WWTP Average	e Oct -Jun	2,653.64	77.35	175.78	102.49
Adjustment for Pro-rated	Power	13,940.73		WWTP Average	e Jul -Sep	3,982.26	Pro	-rated for 12 N	/lonths
Adjustment for CG		2,452.30		Increase		1,328.62	386.76	878.91	717.44
<b>Total Purchased Power</b>		58,923.21		Increase x 9 m	onths	11,957.62			
				LS Pro-rated fo	r 12 months	386.76	Total Power fo	or LS	8,683.80
				LS Pro-rated fo	r 12 months	878.91	Composite CG	F	1.2824
				LS Pro-rated fo	r 12 months	717.44	Total Power fo	or LS with CG	11,136.10
				Total Adjustme	ent	13,940.73	CG Adjustmen	t	2,452.30

Casselberry Exhibit No. 7 Page 1 of 2

#### **Testing Expenses**

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#	Λt	sar	nn	LOC.
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Wastewater Effluent	Required	Frequency	Tests per Year	Cost	per Year	Α	nnual Cost
BOD	1	2 x week	104	\$	20.00	\$	2,080.00
Fecal Coliform	1	2 x week	104	\$	25.00	\$	2,600.00
Nitrogen, Ammonia	1	2 x week	104	\$	20.00	\$	2,080.00
Nitrogen. Kjeldahl, Total	1	2 x week	104	\$	20.00	\$	2,080.00
Nitrogen, Nitrate, Total	1	2 x week	104	\$	20.00	\$	2,080.00
Phosphorus, Total (as P)	1	2 x week	104	\$	20.00	\$	2,080.00
Total Suspended Solids (TSS)	1	2 x week	104	\$	15.00	\$	1,560.00
Chloride	1	3/year	3	\$	20.00	\$	60.00
Solids, Total Dissolved	1	3/year	3	\$	15.00	\$	45.00
						\$	14,665.00
Gravity Flow Draining System Effluent							
Fecal Coliform	1	2 x month	24	\$	25.00	\$	600.00
Nitrogen, Ammonia	1	2 x month	24	\$	20.00	\$	480.00
Total Nitrogen (nitrate, nitrite)	1	2 x month	24	\$	30.00	\$	720.00
Phosphorus, Total (as P)	1	2 x month	24	\$	20.00	\$	480.00
Chloride	1	3/year	3	\$	20.00	\$	60.00
Solids, Total Dissolved	1	3/year	3	\$	15.00	\$	45.00
				_	_	\$	2,385.00

Casselberry Exhibit No. 7 Page 2 of 2

#### **Testing Expenses**

#### # of samples

Monitoring Wells	Required	Frequency	Tests per Year	Cost	per Year	Ar	nnual Cost
Ammonia, Nitrogen	3	3/year	3	\$	20.00	\$	180.00
Total Dissolved Solids (TDS)	3	3/year	3	\$	15.00	\$	135.00
Chloride	3	3/year	3	\$	20.00	\$	180.00
Phosphorus, Total (as P)	3	3/year	3	\$	20.00	\$	180.00
Total Organic Carbon	3	3/year	3	\$	20.00	\$	180.00
Fecal Coliform	3	3/year	3	\$	25.00	\$	225.00
Nitrate	3	3/year	3	\$	20.00	\$	180.00
						\$	1,260.00

Total Testing \$ 18,310.00

Casselberry Exhibit No. 8

#### Single Family Equivalents

<u>Residential</u>	Oct	Nov	Dec	2019 <b>Jan</b>	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2020 <b>Jan</b>	Feb	Mar	Factor	SFE
Total cust	253	263	274	279	283	293	305	342	393	433	462	524	547	577	587	605	625	639		1-0
Sparrow B Res only	0 253	0 263	0 274	0 279	0 283	0 293	0 305	25 317	62 331	95 338	115 347	169 355	203 344	204 373	204 383	204 401	201 424	203 <b>436</b>	1	178 436
Commercial																				
<u>5/8" Meter</u>	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2
3/4" Meter	26	27	27	27	28	27	30	27	27	28	28	30	32	36	38	36	37	37	1	37
1" Meter	9	10	11	10	11	11	10	11	11	11	13	13	13	13	9	9	9	9	2.5	22.5
1 1/2" Meter	3	3	3	3	3	3	5	5	5	5	5	5	5	5	5	5	5	5	5	25
2" Meter	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	8	24
4" Meter	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	25	25
6" Meter	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	50	100
TOTAL																				849.50

#### Public Staff Recommended Rates

Adjusted

_	_	Consumption	Usage						
Type of		for Customer	Charge	Usage	EOP	YTD	Base	Base	Total
User	Consumption	Growth	per/1,000 gal	Revenue	Customers	Customers	Charge	Revenue	Revenue
Flat rate									
Residential	-		-	-	436	5,232	78.55	410,973.60	410,974
Sparrow Bend Apt.	-		-	-	-	-		-	-
					436	5,232		410,974	410,974
Commercial									
5/8" metered	34,770	36,814	16.50	607	2	24	23.50	564.00	1,171
3/4" metered	2,792,115	3,393,257	16.50	55,989	37	444	23.50	10,434.00	66,423
1" metered	2,616,080	2,195,938	16.50	36,233	9	108	58.75	6,345.00	42,578
1.5" metered	1,160,500	1,338,985	16.50	22,093	5	60	117.50	7,050.00	29,143
2" metered	2,438,500	3,135,179	16.50	51,730	3	36	188.00	6,768.00	58,498
2" Sparrow Bend Apt	3,518,659	3,518,659	16.50	58,058	10	120	188.00	22,560.00	80,618
4" metered	1,228,950	1,228,950	16.50	20,278	1	12	587.50	7,050.00	27,328
6" metered	3,175,900	3,175,900	16.50	52,402	2	24	1175.00	28,200.00	80,602
Total Commercial	16,965,474	18,023,683		297,391	69	828		88,971	386,362

Total Revenue 797,335

Casselberry Exhibit No. 10

### Pluris Hampstead's Present and Proposed Rates and Public Staff's Recommended Rates

Monthly Residential Flat Rate:	Present Rates \$ 63.95	Proposed Rates \$ 84.42	Public Staff's Recommended Rates \$ 78.55
Monthly Commercial Metered Rates: (Base charge, zero usage (minimum ch	narge)		
(Dage Grange, 2010 adage (Iriiniiriani er	iai go)		
< 1"	\$ 25.24	\$ 10.00\$ 23	.50
1"	\$ 25.24	\$ 25.00\$ 58	.75
1.5"	\$ 25.24	\$ 50.00\$ 117.	.50
2"	\$ 25.24	\$ 80.00\$ 188	.00
4"	\$ 25.24	\$250.00\$ 587	.50
6"	\$ 25.24	\$500.00\$1,175	.00
Usage charge, per 1,000 gallons	\$ 9.68	\$ 16.50\$ 16	.50